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III  
**MARINE MOLLUSCA OF THE TRES MARIAS  
ISLANDS, MEXICO**

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AND  
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The expedition of the California Academy of Sciences to the Revillagigedo Islands in 1925<sup>1</sup> stopped for nine days in May at the Tres Marias Islands, 200 miles southeast of Cape San Lucas, Lower California. The attention of various members of the party was largely devoted to other duty, but a considerable number of marine mollusks was secured in the progress of other work. Dredging was done at one locality off the east side of Maria Madre Island in front of the penal settlement in 10 to 25 fathoms. The remainder of the material from this island was secured along the east shore from the salt works on the south to a point about four miles north of the penal settlement. All of the collection from Maria Magdalena Island was obtained along the north shore about the center in an east-west direction.

In 1894 Stearns<sup>2</sup> published an annotated list of 89 species from the Tres Marias Islands collected by W. J. Fisher, in 1876, chiefly on Maria Madre Island.

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<sup>1</sup>For a general account of the expedition of 1925 see Hanna, Proc. Calif. Acad. Sci., ser. 4, vol 15, no. 1, 1926, pp. 1-113, pls. 1-10, text figs. 1-7.

<sup>2</sup>Stearns, Proc. U. S. Nat. Mus., vol. 17, 1894, pp. 139-204.

On comparing that list with the present one, many differences will be noted. These lead to the belief that Fisher probably collected on the west side of the island as well as the east. The east side is the more protected from the ocean swell of the Pacific and probably fewer large shells are thrown up there for that reason.

The fauna is found to be similar to that long known from the Gulf of California; however, an unsuspected number of migrants from nothern waters appeared.

In the list below, those species which were also included in Stearns' paper are indicated thus: (S). Those for which there is a notable increase in range from the north are indicated by: (N). The list includes 211 species. About 20 others have been omitted because of our inability to identify them with described forms. Those which may prove to be new will be considered in the series of papers on west Mexican Mollusca, being published from time to time, by Baker, Hanna and Strong.

We are under obligation to Professor Francisco Contreras, a member of the expedition, for permitting us to include in the list such species as he was able to collect. In so far as the available series of specimens has permitted, a suite of each species has been deposited in the National Museum of Mexico. Another set has been deposited in the U. S. National Museum, and various forms have been transferred to the collections of A. M. Strong and Fred Baker. The same statements apply as to disposition of material to the collections reported upon in the two preceding papers.

#### PELECYPODA and SCAPHOPODA

1. *Antigona rigida* Dillwyn. Maria Magdalena, five valves. If the Pacific shell is considered as distinct from the West Indian it will take the name of *A. isocardia* Verrill, 1870.
2. *Arca formosa* Sowerby. Maria Magdalena, one valve.
3. *Arca multcostata* Sowerby. Maria Madre; very common.
4. *Arca mutabilis* Sowerby. (S.) Maria Madre, one specimen; Maria Magdalena, five specimens.
5. *Arca pacifica* Sowerby. Maria Madre, two valves.
6. *Arca reticulata* Gmelin. Maria Madre, three valves.
7. *Arca solida* Broderip & Sowerby. Maria Madre, two specimens.

8. *Botula cinnamoneus* Chemnitz. Maria Madre, five specimens in a piece of rock. These seem to agree with Reeve's figure, "*Lithodomus* sp. 3," which he listed from the Philippines and the West Indies. Carpenter listed the species from Mazatlan, "No. 177," on the strength of a single valve.
9. *Cardita laticostata* Sowerby. Maria Magdalena, three specimens and six odd valves.
10. *Cardium apicinum* Carpenter. Maria Madre, many specimens. This is said to be the same as *C. elenense* Sowerby from South America, but the small, smooth Gulf form seems to be really distinct.
11. *Cardium biangulatum* Sowerby. Maria Madre, a few valves and many young specimens.
12. *Cardium consors* Broderip & Sowerby. Maria Madre, a few valves and young specimens; Maria Magdalena, two valves.
13. *Cardium pristipleura* Dall. Maria Madre, three valves; Maria Magdalena, three valves. This is *C. maculosum* of authors, not Wood.
14. *Chama spinosa* Broderip. Maria Madre, 10 valves; Maria Magdalena, three valves.
15. *Chione undatella* Sowerby. (S.) Maria Madre, very common.
16. *Codakia distinguenda* Tryon. Maria Madre, three valves; Maria Magdalena, six valves.
17. *Codakia mexicana* Dall. Maria Madre, 12 valves. This is *Lucina pectinata* Carpenter, not Gmelin.
18. *Corbula speciosa* Hinds. Maria Magdalena, one valve.
19. *Crenella divaricata* d'Orbigny. Maria Madre, six specimens. Dall stated that the gulf shells are identical with this West Indian species. Carpenter described it as *C. inflata*.
20. *Cumingia lamellosa* Sowerby. Maria Madre, 10 specimens. Carpenter listed three species from Mazatlan but Dall united them under this name. Our specimens belong to what Carpenter called *C. trigonularis* Sowerby.
21. *Cyathodonta dubiosa* Dall. (N.) Maria Madre, four valves.
22. *Dentalium fischeri* Stearns. (N.) Maria Madre, about 20 specimens.
23. *Dentalium semipolatum* Pilsbry & Sharp. (N.) Maria Madre, about 100 specimens.
24. *Divaricella lucasana* Dall & Ochsner. Maria Madre, many valves. This species is commonly listed as *D. eburnea* (Reeve) 1850, but not of Deshayes, 1835.
25. *Gastrochæna ovata* Sowerby. Maria Madre, several specimens from holes in a rock.
26. *Glycymeris inæqualis* Sowerby. Maria Madre, several specimens, young and adult; Maria Magdalena, a few odd valves.
27. *Glycymeris multicostata* Sowerby. Maria Madre, very common, mostly young.

28. *Glycymeris pectenoides* Deshayes. Maria Madre, very common.
29. *Leda acuta* Conrad. (N.) Maria Madre; two specimens.
30. *Lithophaga aristata* Dillwyn. Maria Madre, two specimens in a piece of coral rock.
31. *Lithophaga plumula* Hanley. Maria Madre, one specimen in a piece of coral rock.
32. *Lyonsia gouldii* Dall. (N.) Maria Madre, five valves.
33. *Macrocallista squalida* Sowerby. Maria Madre, very common.
34. *Modiolus capax* Conrad. Maria Magdalena, one specimen.
35. *Modiolus coralliophagus* Gmelin. Maria Madre, several specimens from holes in a piece of coral rock. This is said to be the same as the West Indian species more commonly known under the name of *M. opifex* Say.
36. *Mytilus multififormis* Carpenter. (S.) Maria Madre, two adult and many young specimens.
37. *Ostrea chilensis* Dall. Maria Madre, six valves.
38. *Pecten cataractes* Dall. Maria Madre, two valves.
39. *Pecten circularis* Sowerby. Maria Madre, 20 valves; Maria Magdalena, five valves.
40. *Pecten subnodosus* Sowerby. Maria Madre, one valve; Maria Magdalena, four valves.
41. *Pedalion chemnitzianum* d'Orbigny. Maria Madre, six specimens from shore and many from holes in a piece of rock; Maria Magdalena, six specimens.
42. *Petricola robusta* Sowerby. Maria Madre, five specimens from a piece of coral rock.
43. *Phacoides approximatus* Dall. Maria Madre, many valves.
44. *Phacoides lamprus* Dall. Maria Madre, many adult valves and young specimens.
45. *Phacoides nuttalli* Conrad. (N.) Maria Magdalena, two valves.
46. *Pinctada fimbriata* Dunker. The pearl oyster. Maria Madre, several specimens.
47. *Pitaria vulnerata* Broderip. Maria Madre, very common.
48. *Psammobia fucatus* Hinds. Maria Madre, a few young.
49. *Pteria sterna* Gould. Maria Madre, two specimens.
50. *Siphodentalium quadrifissatum* Carpenter. (N.) Maria Madre, about 20 specimens.
51. *Spondylus calcifer* Carpenter. Maria Madre, one specimen.
52. *Tagelus ? affinis* C. B. Adams. Maria Madre, four young specimens.
53. *Tellina cumingii* Hanley. Maria Madre, five valves.
54. *Tellina ochracea* Carpenter. Maria Madre, two adult and several young valves.
55. *Tellina panamensis* Dall. Maria Madre, very common.

56. *Venericardia flammea*<sup>3</sup> Michelin. Maria Magdalena, 12 valves.  
 57. *Venericardia crassicostata*<sup>4</sup> Sowerby. Maria Madre, two valves; Maria Magdalena, 10 valves.

### GASTROPODA

58. *Acanthina muricata* Broderip. Maria Madre, five specimens, Maria Magdalena, three specimens.  
 59. *Acmaea discors* Philippi. (S.) Maria Magdalena, one specimen.  
 60. *Acmaea limatula* Carpenter. Maria Madre, 20 specimens.  
 61. *Acmaea rosacea* Carpenter. Maria Madre, several specimens.  
 62. *Acteocina angustior* Baker & Hanna. Maria Madre, about 500 specimens.  
 63. *Alaba supralirata* Carpenter. Maria Madre, several hundred specimens.  
 64. *Alabina diomedea* Bartsch. Maria Madre, 10 specimens.  
 65. *Alabina occidentalis* Hemphill. (N.) Maria Madre, 40 specimens.  
 66. *Alectrion pagoda corpulenta* C. B. Adams. (S.) Maria Madre, several specimens.  
 67. *Alectrion versicolor* C. B. Adams. Maria Madre, 12 specimens.  
 68. *Ateles squamigerus* Carpenter. Maria Madre, several specimens.  
 69. *Alvania tumida* Carpenter. Maria Madre, 40 specimens.  
 70. *Anachis pygmaea* Sowerby. Maria Madre, 20 specimens.  
 71. *Anachis subturrita* Carpenter. (N.) Maria Madre, 10 specimens.  
 72. *Architectonica granulata* Lamarck. (S.) Maria Madre, several young specimens.  
 73. *Astraea olivaceum* Mawe. Maria Madre, two specimens; Maria Magdalena, nine specimens.  
 74. *Astraea unguis* Mawe. Maria Madre, three specimens; Maria Magdalena, four specimens.  
 75. *Barleeia alderi* Carpenter. Maria Madre, 40 specimens.  
 76. *Bullaria punctulata* A. Adams. Maria Madre, one adult and many young specimens; Maria Magdalena, one specimen.  
 77. *Cæcum ? clathratum* Carpenter. Maria Madre, four specimens.  
 78. *Calyptrea mammillaris* Broderip (S.) Maria Madre, 12 specimens.

<sup>3</sup>*Venericardia flammea* MICHELIN, Mag. de Zool. 1830. pl. 6.—REEVE, Conch. Icon. [*Cardita*], 1843, pl. 8, fig. 38; [as *Cardita*.]

*Venericardia crassicostata* SOWERBY, DALL, Proc. U. S. Nat. Mus., vol. 37, 1909, p. 261; not SOWERBY, Tankerville Catalog. 1825, App. p. iv.

*Cardita varia* BRODERIP, Proc. Zool. Soc. 1832, p. 56.—REEVE, Conch. Icon. [*Cardita*], 1843, pl. 5, figs. 25 a, b.

*Cardita tumida* BRODERIP, Proc. Zool. Soc. 1832, p. 56.—REEVE, Conch. Icon. [*Cardita*], 1843, pl. 5, fig. 26.

<sup>4</sup>*Cardita crassicostata* SOWERBY, Tankerville Catalog. 1825, App. p. iv.—WOOD, Index Test. Suppl. 1828, p. 204, pl. 2, [*Chama*], fig. 5; [reference from 1856 Ed.]

*Cardita curvieri* BRODERIP, Proc. Zool. Soc. 1832, p. 55.—REEVE, Conch. Icon. [*Cardita*], 1843, pl. 5, fig. 24.

79. *Cantharus gemmatus* Reeve. Maria Madre, one specimen.
80. *Cantharus sanguinolentus* Duclos. Maria Madre, seven specimens; Maria Magdalena, five specimens.
81. *Cassidea abbreviata* Lamarck. Maria Madre, one specimen.
82. *Cerithium maculosum* Kiener. (S.) Maria Madre, 12 specimens; Maria Magdalena, three specimens.
83. *Cerithium uncinatum* Gmelin. Maria Madre, 30 specimens.
84. *Clava gemmatum* Hinds. (S.) Maria Madre, many specimens.
85. *Conus brunneus* Mawe. (S.) Maria Madre, one specimen.
86. *Conus dalli* Stearns. (S.) Maria Madre, four specimens.
87. *Conus princeps* Lamarck. Maria Madre, three specimens; Maria Magdalena, seven specimens.
88. *Conus purpurascens* Broderip. (S.) Maria Madre, five specimens; Maria Magdalena, 12 specimens.
89. *Conus tornatus* Broderip. Maria Madre, many specimens, mostly young.
90. *Coralliophila neritoides* Lamarck. Maria Madre, 12 specimens.
91. *Coralliophila nux* Reeve. Maria Madre, two specimens.
92. *Crassispira aterrima* Sowerby. Maria Madre, one specimen.
93. *Crepidula aculeata* Gmelin. Maria Madre, nine specimens.
94. *Crepidula excavata* Broderip. Maria Madre, many specimens.
95. *Crepidula exuviana* Nuttall. Maria Madre, one specimen.
96. *Crepidula incurva* Broderip. Maria Madre, two specimens.
97. *Crucibulum imbricatum* Sowerby. (S.) Maria Madre, many specimens.
98. *Crucibulum spinosum* Sowerby. (S.) Maria Madre, many specimens.
99. *Cylichnella fantasma* Baker & Hanna. Maria Madre, 23 specimens.
100. *Cymatium pilearis* Linnæus. Maria Madre, two specimens.
101. *Cymatosyrinx ægina* Dall. Maria Madre, 25 specimens.
102. *Cymatosyrinx æolia* Dall. Maria Madre, 20 specimens.
103. *Cypræa albiginosa* Gray. (S.) Maria Madre, three specimens; Maria Magdalena, eight specimens.
104. *Cypræa arabicula* Lamarck. (S.) Maria Madre, seven specimens; Maria Magdalena, six specimens.
105. *Cypræa cervinella* Kiener. Maria Madre, six specimens.
106. *Cypræa isabella-mexicana* Stearns. (S.) Maria Magdalena, four specimens.
107. *Cypræcassis coarctata* Wood. (S.) Maria Magdalena, four specimens.
108. *Cypræolina margaritula* Carpenter. Maria Madre, several hundred specimens.
109. *Cysticus politulus* Dall. (N.) Maria Madre, about 100 specimens.
110. *Cytharella penelope* Dall. Maria Madre, 18 specimens.
111. *Cytharella phathusa* Dall. Maria Madre, nine specimens.
112. *Diadora inæqualis* Sowerby. (S.) Maria Madre, two specimens.

113. *Diadora panamensis* Sowerby. (S.) Maria Magdalena, eight specimens.  
This is *F. alta* C. B. Adams.
114. *Daphnella bartschi* Dall. Maria Madre, one specimen.
115. *Elephantanellum heptagonum* Carpenter. Maria Madre, several hundred specimens. Carpenter's description was based on a single broken specimen but the species seems to be very distinct. The ribs are not uniformly seven in number.
116. *Engina rufonotata* Carpenter. Maria Madre, nine specimens.
117. *Epitonium (Nitidoscala) ? apiculatum* Dall. Maria Madre, two specimens.
118. *Epitonium (Nitidoscala) bialatum* Dall. Maria Madre, five specimens.
119. *Epitonium (Asperoscala) canna* Dall. Maria Magdalena, one specimen.
120. *Epitonium (Nodiscala) retiporosum* Carpenter. (N.) Maria Madre, nine specimens.
121. *Epitonium (Asperoscala) xantusi* Dall. Maria Madre, nine specimens.
122. *Fasciolaria princeps* Sowerby. Maria Madre, several specimens.
123. *Fissurella rugosa* Sowerby. Maria Madre, one specimen; Maria Magdalena, two specimens.
124. *Fissurella virescens* Sowerby. Maria Madre, one specimen; Maria Magdalena, 10 specimens.
125. *Fusinus taylorianus* Reeve. Maria Madre, several young specimens.
126. *Haminæ angelensis* Baker & Hanna. Maria Madre, several young specimens.
127. *Harpa crenata* Swainson. (S.) Maria Magdalena, two specimens.
128. *Hipponix barbatus* Sowerby. (S.) Maria Madre, two specimens.
129. *Hipponix antiquatus* Linnæus. Maria Madre, one specimen.
130. *Hipponix grayanus* Menke. Maria Madre, many specimens.
131. *Hyalina californica* Tomlin. Maria Madre, 12 specimens of a small, pale variety.
132. *Iselica ovoidea* Gould. Maria Madre, 61 specimens in all stages of growth. The variation in this lot makes it seem quite probable that *I. maculosa* Carpenter (Mazatlan Catalogue No. 406), was described from a young, well marked specimen of this species.
133. *Lamellaria stearnsii* Dall. (N.) Maria Madre, six young specimens.
134. *Lamprodroma volutella* Lamarck. Maria Magdalena, one very large specimen.
135. *Latirus ceratus* Gray. (S.) Maria Magdalena, one specimen.
136. *Liotia acuticostata* Carpenter. (N.) Maria Madre, 20 specimens.
137. *Liotia rammata* Dall. Maria Madre, many specimens.
138. *Littorina conspersa* Philippi. (S.) Maria Madre, 85 specimens.
139. *Littorina philippii penicillata* Carpenter. Maria Madre, 13 specimens.
140. *Littorina pullata* Carpenter. Maria Madre, many specimens. Some authors list this as identical with the northern *L. scutulata* Gould.
141. *Malea ringens* Sowerby. Maria Madre and Maria Magdalena, several specimens.

142. *Marginella phrygia* Sowerby. Maria Madre, four specimens.
143. *Magatebennus bimaculatus* Dall. (N.) Maria Madre, one specimen.
144. *Melanella baldra* Bartsch. Maria Magdalena, one specimen.
145. *Melanella mexicana* Bartsch. Maria Madre, 27 specimens.
146. *Melaxia convexa* Carpenter. Maria Madre, nine specimens.
147. *Micranellum ? elongatum* Carpenter. Maria Madre, one specimen.
148. *Mitra funiculata* Reeve. Maria Madre, one specimen.
149. *Mitra lens* Mawe. (S.) Maria Magdalena, nine specimens.
150. *Mitrella ocellata* Gmelin. (S.) Maria Magdalena, eight specimens. This is *Nitidella cribraria* of many authors.
151. *Modulus cerodes* A. Adams. (S.) Maria Madre, 18 specimens.
152. *Morum tuberculosum* Sowerby. (S.) Maria Magdalena, two specimens.
153. *Murex bicolor* Valenciennes. Maria Magdalena, one specimen.
154. *Murex rectirostris* Sowerby. Maria Madre, one specimen.
155. *Natica catenata* Philippi. Maria Madre, several young specimens.
156. *Nerita bernhardi* Reclus. (S.) Maria Madre, one specimen.
157. *Odostomia (Miralda) apynota* Dall & Bartsch. Maria Madre, six specimens.
158. *Odostomia (Chrysallida) deceptrix* Dall & Bartsch. Maria Madre, one specimen.
159. *Odostomia (Chrysallida) ? lapazana* Dall & Bartsch. Maria Madre, one young specimen.
160. *Odostomia (Salassia) scalariformis* Carpenter. Maria Madre, about 40 specimens.
161. *Odostomia (Chrysallida) vizcainoana* Baker, Hanna & Strong. Maria Madre, 20 specimens.
162. *Oliva hiatula* Duclos. (S.) Maria Magdalena, four specimens. This species is listed as *O. testacea* Lamarck by many authors.
163. *Olivella gracilis* Sowerby. Maria Madre, a number of young specimens; Maria Magdalena, 15 specimens.
164. *Olivella undatella* Lamarck. Maria Magdalena, five specimens.
165. *Parametaria dupontii* Kiener. (S.) Maria Magdalena, five specimens. This is *Conella cedonulli* of many authors.
166. *Patella mexicana* Broderip & Sowerby. (S.) Maria Magdalena, several specimens.
167. *Phasianella typicum* Dall. (S.) Maria Madre, nine specimens; Maria Magdalena, one specimen. This is *P. variegata* Carpenter.
168. *Philbertia affinis* Dall. (N.) Maria Madre, three specimens.
169. *Philbertia trichodes* Dall. Maria Madre, many specimens.
170. *Phyllonotus princeps* Broderip. Maria Madre, one specimen.
171. *Phyllonotus regius* Swainson. Maria Magdalena, two specimens.
172. *Polinices uber* Valenciennes. Maria Madre, about 20 specimens, mostly young.



173. *Pustularia pustulata* Lamarck. (S.) Maria Madre, one specimen; Maria Magdalena, three specimens.
174. *Pyramidella hastata* A. Adams. Maria Madre, one specimen.
175. *Pyrene fuscata* Sowerby. (S.) Maria Madre, 20 specimens; Maria Magdalena, 24 specimens.
176. *Pyrene hæmastoma* Sowerby. Maria Madre, about 50 specimens.
177. *Pyrene major* Sowerby. Maria Madre, one specimen; Maria Magdalena, six specimens.
178. *Rissoina firmata* C. B. Adams. Maria Madre, one specimen.
179. *Rissoina stricta* Menke. Maria Madre, one specimen.
180. *Seila assimillata* C. B. Adams. Maria Madre, about 100 specimens.
181. *Siphonaria maura lecania* Philippi. Maria Madre, four specimens.
182. *Siphonaria maura palmata* Carpenter. Maria Madre, seven specimens; Maria Magdalena, six specimens.
183. *Strigatella tristis* Broderip. Maria Madre, six specimens; Maria Magdalena, two specimens.
184. *Strombina gibberula* Sowerby. Maria Madre, about 100 specimens.
185. *Strombina maculosa* Sowerby. Maria Madre, six young specimens.
186. *Strombina pulcherrima* Sowerby. Maria Madre, three specimens.
187. *Strombus galeatus* Wood. (S.) Maria Magdalena, several specimens.
188. *Strombus granulatus* Gray. Maria Madre, two young specimens; Maria Magdalena, one specimen.
189. *Strombus peruvianus* Swainson. Maria Magdalena, two specimens.
190. *Tegula globula* Carpenter. (S.) Maria Madre, one specimen; Maria Magdalena, nine specimens.
191. *Tegula mariana* Dall. Maria Madre, 20 specimens; Maria Magdalena, 12 specimens. This is *Omphalius coronatus* of Carpenter and Tryon, not Adams.
192. *Thyas biserialis* Blainville. Maria Madre, two specimens; Maria Magdalena, one specimen.
193. *Triphora contrerasi* Baker. Maria Madre, 11 specimens.
194. *Triphora dalli* Bartsch. Maria Madre, 14 specimens.
195. *Triphora peninsularis* Bartsch. Maria Madre, 12 specimens.
196. *Trivia pulla* Gaskoin. Maria Madre, three specimens.
197. *Trivia radians* Lamarck. (S.) Maria Magdalena, one specimen.
198. *Trivia sanguinea* Gray. Maria Magdalena, one specimen.
199. *Turbo fluctuosum* Wood. (S.) Maria Madre, four specimens; Maria Magdalena, one specimen.
200. *Turbo squamiger* Reeve. (S.) Maria Madre, 25 specimens, mostly young.
201. *Turbonilla (Mormula) coyotensis* Baker, Hanna & Strong. Maria Madre, two specimens.
202. *Turbonilla (Pyrgiscus) flavescens* Carpenter. Maria Madre, about 40 specimens.



203. *Turbonilla (Pyrgiscus) indentata* Carpenter. Maria Madre, 25 specimens.
204. *Turbonilla (Pyrgiscus) larunda* Dall & Bartsch. Maria Madre, about 100 specimens.
205. *Turbonilla (Chemnitzia) ? muricata* Carpenter, Maria Madre, two worn specimens.
206. *Turbonilla (Pyrgiscus) ? sanctorum* Dall & Bartsch. Maria Madre, one worn specimen.
207. *Turricula tuberculifera* Broderip & Sowerby. Maria Madre, eight specimens, young.
208. *Turritella tigrina* Kiener. Maria Magdalena, two specimens.
209. *Typhis grandis* A. Adams. Maria Madre, two specimens.
210. *Vasum caestus* Broderip. Maria Magdalena, two specimens.
211. *Williamia peltoides* Carpenter. (N.) Maria Madre, two specimens.